

# MACIEJ KOS

**e-mail:** mkos@ccs.neu.edu / **phone:** +1 857 350 6087 / **url:** github.com/maciejkos

## PROFILE

Ph.D. student with a strong background in data analytics and behavioral sciences.  
ACM/Intel Corporation Computational and Data Sciences Fellow

## EDUCATION

<b>Northeastern University</b> , Boston, MA Ph.D. in Computer Science, Personal Health Informatics	09/2015 – present
<b>University of Michigan</b> , Ann Arbor, MI Master of Arts in Information Science (incentives-centered design and behavioral research focus)	12/2012
<b>Barcelona Graduate School of Economics</b> , Barcelona, Spain Master of Science in Economics of Science and Innovation	06/2009
<b>University of Gdansk</b> , Sopot, Poland Bachelor and Master of Arts in Economics and E-business	06/2005

## EXPERIENCE

<b>Clinical Analytics Research Intern (Cognition)</b> at Philips Research, Cambridge, MA	05/2018 – 09/2018
<b>Research Assistant</b> at College of Computer and Information Science, Northeastern University, Boston, MA	09/2015 – present
<b>Investigator / Research Group Manager, Research Grant: Genetic health risk information avoidance</b> (with Professors Richard Gonzalez, Dagmara Wach and Anna Blajer), Sopot, Poland & Boston, MA	07/2013 – now
<b>User Experience and research consultant</b> at Agile Axons (self-employed), Gdynia, Poland and Rome, Italy	01/2013 – 08/2015
<b>Graduate Research Assistant at the School of Information, University of Michigan</b> (supervisor: Professor and Dean Jeff MacKie-Mason), Ann Arbor, MI	08/2009 – 01/2012
<b>Researcher/lecturer</b> at <b>University of Gdansk</b> , Sopot, Poland	10/2005 – 09/2009
<b>Localization tester</b> at <b>Electronic Arts</b> , Madrid, Spain	06-09 of 2007&2008

**Earlier positions include:** IT content editor in Spain, Product Manager (intern) in Spain, Internet Marketing Specialist (intern) in Whitefish, MT, Marketing Manager in Poland

## SELECTED PROJECTS

### **Research assistant, “Strengthening Human Adaptive Reasoning and Problem-solving Program”, 2016 - 2018**

- In this study subjects received several types of brain stimulation when playing a video game over several weeks with the goal of improving their fluid intelligence.
- Responsible for analyzing, visualizing, and modeling large volumes of data on subjects’ behavior and learning.
- Techniques used: PCA, t-SNE, hierarchical and spectral clustering, multilevel univariate and multivariate regression models, psychometric function, item response theory, deep learning / convolutional neural networks for EEG analysis (just starting).

### **Research Assistant, “WearTech”, in collaboration with Shepherd Spinal Cord & Brain Injury Rehabilitation Center, 2016 - now**

- Developed a cutting-edge algorithm for improving the accuracy of heart rate variability estimates from wearable devices. Presented the algorithm at the American Medical Informatics Association convention.
- Conducted literature review of using heart rate variability and electrodermal activity to detect emotional

stress and designed the study.

#### **Analyst (pro bono), “Child Aid Guatemala”, 2016 - now**

- The goal of this project is to increase literacy among children living in rural Guatemala.
- Contributes to the analysis of data coming from a large-scale field experiment by performing regression analysis (including item response theory) and reporting the results.

#### **UX lead, “Digital Breeze”, 2015**

- Contributed to building a consumer-facing mobile application for a large Italian telco (in cooperation with Ericsson, McKinsey, and Monk Software).
- Conducted and analyzed surveys, semi-structured interviews, and usability tests to better inform UI/UX decisions and shape business processes, managed work of a UI team, interfaced between UI/UX and mobile development teams.

#### **UX designer, “Lives of Dissidents”, 2014**

- Helped launch a charity project.
- Conducted card sorting (open and closed) sessions to design information architecture, performed usability studies and A/B tests.

#### **SELECTED AWARDS**

- **ACM/Intel Corporation Computational and Data Sciences Fellowship**, 2017 - 2020
- 4th Annual Political Networks Conference and Workshops at the University of Michigan, 2011 - fellowship
- Barcelona Graduate School of Economics, 2008/2009 - merit-based full tuition waiver (12 000 EUR)
- Google Online Marketing Challenge Professor, 2008 - mentored two teams including the TOP Polish team (both of my teams ranked 70-89% worldwide)
- Erasmus Life-long Learning Grant, 2008 (1 900 EUR)
- University of Gdansk, 2007 (2000 USD) - grant to assess usability of selected academic websites
- Erasmus Socrates Mobility Grant, 2005 (1 850 EUR)

#### **PRO BONO SERVICE**

- Northeastern Personal Health Informatics Faculty Committee, 2018/2019 – elected student representative
- Poland Foresight 2020 national research program – External expert
- Northeastern University PhD task force, 2016 – representative of Personal Health Informatics program
- Rackham's International Connect, 2010/2011 – Mentor
- Baltic Science Festival, 2007/2008 – Departmental coordination team member

#### **RECENT ACADEMIC PAPERS AND PRESENTATIONS**

**Kos M.**, Ponnada A., Pavel M., Intille S. (2018). *Evidence That Microinteraction Ecological Momentary Assessment ( $\mu$ EMA) is a Non-Reactive In-Situ Affect Assessment Method* (poster abstract under review)

Pavel M., Li X., **Kos M.**, Khaghani-Far I., Gordon C., Jimison H., Williams H. (2018). *Improving Individuals' Behavior and State Estimates with Model-Based Data Science and Sensor Fusion*. Panel discussion at the 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Hawaii

Rampersad S., Orhan K., **Kos M.**, Mansfield K., Marghi Y. M., Sheffield J., Dillard M., Erdogmus D., Pascual-Leone A., Yeung N., Mathan S., Cohen K. R., Pavel M. (2018). *Effects of EEG-Based Closed-Loop Transcranial Alternating Current Stimulation on Theta Power during a Cognitive Task*. Poster presentation at the 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Hawaii

Khaghani-Far I., Li X., **Kos M.**, Gordon C., Pavel M., Jimison H. (2017). *NUCoach: A Modular Health Monitoring and Coaching Platform for Health and Data Scientists* (paper under review)

Li X., **Kos M.**, Navarjun G., Khaghani-Far I., Gordon C., Pavel M., Jimison H. (2017). *Continuous Unobtrusive Stress Sensing using Low-cost Electrodermal Activity Sensor and Vocal Affect Recording* (paper under review)

- Kos M.**, Gordon C., Li X., Khaghani-Far I., Pavel M., Jimison H. (2017). *The Accuracy of Monitoring Stress from Wearable Devices*. Poster presentation at the Annual American Medical Informatics Association Symposium, Washington, DC
- Kos M.**, Li X., Khaghani-Far I., Gordon C., Pavel M., Jimison H. (2017). *Can accelerometry data improve estimates of heart rate variability from wrist PPG sensors?* Paper presentation at the 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, South Korea
- McKanna J., Plessow F., Dillard M., Kimball G., Norton-Ford Almquist J., **Kos M.**, Yeung N., Mathan S., Pavel M. (2017). *Training Executive Functions through Rapidly-Changing Task Contexts and an Individualized Difficulty Progression* (paper under review)
- McKanna J., **Kos M.**, Plessow F., Dillard M., Almquist J., Kimball G., Myers E., Orhan U., Rampersad S., Marghi Y., Cornhill D., Brem A., Mansfield K., Yeung N., Thompson T., Santarnecki E., Erdogmus E., Pascual-Leone A., Kadosh C. R., Mathan S., Pavel M. (2017). *Components of cognition: identifying contributors to learning speed in a game training intervention*. Poster presentation at xTech, San Francisco
- Kos M.**, McKanna J., Pavel M., Dillard M., Almquist J., Kimball G., Brem A., Orhan U., Rampersad S., Cornhill D., Yeung N., Erdogmus D., Pascual-Leone A., Kadosh R., Mathan S. (2017). *The impact of stimulus features on learning and accuracy in an adaptive category learning task designed to train fluid intelligence*, Poster presentation at the Association for Psychological Science annual convention, Boston, MA
- 2016
- Blajer-Golebiewska, A. and **Kos, M.** (2016). *Investors are more sensitive to information about financial rather than ethical reputation of a company: evidence from an experimental study*. Economics & Sociology, 9(1), p.11.
- Kos M.**, Blajer-Golebiewska A., Wach D., Pavel M., Gonzalez R. (2016). *Decision-making under threat: what determines our engagement in preventive behaviors?* Poster presentation at the Society for Judgment and Decision Making annual conference, Boston
- Blajer-Golebiewska A., Wach D., **Kos M.** (2016). *Information avoidance in financial decision making*. Proceedings of the 23rd International Academic Conference, Venice
- Blajer-Golebiewska A., Wach D., **Kos M.** (2016). *Risk information avoidance: time inconsistency in decision-making*. Presentation at Economic valuations: privacy, environment, security, and health, Sopot
- Kos M.**, Blajer A., Wach D. (2015). *When do we avoid health-risk information?* Poster presentation at the Society for Judgment and Decision Making annual conference, Chicago
- Kos M.**, Blajer A., Wach D. (2015). *Identifying predictors of preventive behaviors using a financially incentivized experiment – a pilot study*. Poster presentation at the 37th Annual North American Meeting of Society for Medical Decision Making, St. Louis
- Blajer A., Wach D., **Kos M.** (2015). *When inducing affective decision making statistical significance may be not enough*, Oral presentation at the 10th Nordic Conference on Behavioral and Experimental Economics, Tampere
- Blajer A., **Kos M.** (2015). *Investors are more sensitive to information about financial rather than ethical reputation of a company: evidence from an experimental study*. Economics & Sociology, 9(11), 11-22
- Kos M.**, Blajer A., Wach D. (2015). *When do individuals avoid potentially life-saving risk information?* Poster presentation at the Subjective Probability, Utility, Decision Making conference, Budapest
- 2013 and earlier
- Kos M.** (2013). *Structural and behavioral determinants of play in a repeated network coordination game – preliminary report*. Contemporary Economy Economic Scientific Journal, 3(4), 43-69.